

VIA FACSIMILE (703) 872-9306

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PATENT**

Remarks

The Office Action mailed May 2, 2005 has been carefully reviewed and the following remarks are made in consequence thereof.

Claims 1-10 and 12-26 are now pending in this application. Claims 1, 4, and 5 stand rejected. Claims 2, 3, and 6-10 are objected to. Claim 12-26 are allowed.

The rejection of Claims 1, 4, and 5 under 35 U.S.C. § 102(b) as being unpatentable over McMillan (U.S. Pat. No. 4,231,166) in view of Bria et al (U.S. Patent No. 6,681,497) is respectfully traversed.

McMillan describes a clothes dryer (10) that includes a cabinet (12), an access door (14), and a clothes tumbling drum (16). The dryer further includes an air inlet (44) opening into the drum and a duct (46) in communication with the inlet. Heating elements 101, 102 and a temperature sensor (51) are positioned within the duct. Air exits the drum through a duct (54) that includes a temperature sensor, or thermistor (57) that senses the temperature of the air exiting the drum. A single speed motor (58) drives the driven components. A controller, which may be a microcomputer (100) controls the dryer operation. A preprogrammed segment of the microprocessor and a switching circuit (110) including a triac switch (111) controls the heaters. The heater control circuit is actuated either by reducing the switching duty cycle or by turning off the heaters to lower the heat input rate (col. 7, lines 37-40).

Bria et al describe a web drying apparatus including an air flotation dryer (100) with an integrated regenerative thermal oxidizer (20). The dryer portion of the unit includes two process zones with one or two modules each. Each module includes a header, fan, and plenum. The supply fan for the first module in the first zone includes a

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two-speed motor to enable low speed operation during hot idle. The apparatus includes a regenerative combustion device to convert volatile organic compounds (VOCs) to harmless gasses.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither McMillan nor Bria et al., considered alone or in combination, describe or suggest the claimed combination.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re *Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In the present case, neither McMillan nor Bria et al., considered alone or in combination describe or suggest a clothes dryer that includes a variable heat source.

Applicants respectfully traverse the assertion in the Office Action that McMillan teaches a variable heat source. Rather, the heaters in the McMillan dryer are controlled by a switching circuit including a triac switch and the heater control circuit is actuated either by reducing the switching duty cycle or by turning off the heaters to lower the heat input rate (col. 7, lines 37-40). (Note that a switching duty cycle merely turns the dryer on and off for given time intervals.) Thus, the heat input rate is only shown to be varied by switching the heater on and off. This is further shown in Figure 4 where "heat on" and "heat off" are the only heater states shown. The Office Action cites col.6, lines 58-69 as describing a variable heat source. The passage states:

"The control apparatus of the invention further includes means for terminating the dryer operation at the conclusion of the drying cycle. This cycle

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terminating means may be a timer, operative at the commencement of the above described third period of the drying cycle, to time out and shut off the dryer at the end of a fixed time period in well known manner. Alternatively, it may include moisture sensor 120 which operates with programmed instructions in microcomputer 100 to shut off the dryer when a certain moisture level, such as 4%, is reached in the clothes load".

Rather than a variable heat source, the cited passage more accurately describes shutting off the dryer at the end of the drying cycle.

Bria et al. is cited for its teaching of a two-speed motor driving a fan in the web drying apparatus. No other aspect of the web dryer is compatible with a clothes dryer. For instance, some locations in the web dryer may experience temperatures in excess of 2000 degrees (col. 7, lines 5-8 and col. 9, lines 2-5). Consequently, no motivation is shown in the references themselves for combining the references. For these reasons alone, Applicants respectfully request that the Section 103 rejection be withdrawn.

Claim 1 recites a method of controlling the operation of a dryer including both a variable heat source and a variable speed blower, a drum including a cavity configured to hold an article to be dried, and a first motor drivingly coupled to the drum to rotate the drum. The method includes: "rotating the drum; and varying only one of the variable heat source and the variable speed blower, while maintaining the other one in a fixed state; wherein varying the variable speed blower comprises varying the variable speed blower between a first speed and a second speed greater than the first speed and in the same direction as the first speed."

Neither McMillan nor Bria et al., considered alone or in combination fairly describe or suggest the method recited in Claim 1. More specifically, neither McMillan nor Bria et al., considered alone or in combination fairly describe or suggest a variable heat source. Rather, McMillan describes a heater control that turns heater elements on

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and off to control a heat input rate. Bria et al. is cited for a two-speed motor driving a fan. Accordingly, for the reasons set forth above, Claim 1 is submitted to be patentable over McMillan in view of Bria et al.

Claim 4 recites a dryer for tumble drying articles that includes "a drum comprising a cavity configured to hold articles to be dried; a first motor drivingly coupled to said drum to rotate said drum; a variable heat source in flow communication with said cavity; and a variable speed motor drivingly coupled to a blower positioned to deliver air heated by said heat source to said cavity, wherein said motor is variable between a first speed and a second speed greater than the first speed and in the same direction as the first speed."

Neither McMillan nor Bria et al., considered alone or in combination fairly describe or suggest the method recited in Claim 4. More specifically, neither McMillan nor Bria et al., considered alone or in combination fairly describe or suggest a variable heat source. Rather, McMillan describes a heater control that turns heater elements on and off to control a heat input rate. Bria et al. is cited for a two-speed motor driving a fan. Accordingly, for the reasons set forth above, Claim 4 is submitted to be patentable over McMillan in view of Bria et al.

Claim 5 depends from Claim 4. When the recitations of Claim 5 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claim 5 likewise is patentable over McMillan in view of Bria et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1, 4, and 5 be withdrawn.

The objection to claims 2, 3, and 6-10 is respectfully traversed.

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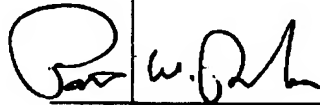
Applicants thank the Examiner for the indication of allowable subject matter in Claims 2, 3, and 6-10.

Claims 2 and 3 depend from independent Claim 1. Claims 6-10 depend from independent Claim 4. It is respectfully submitted that the respective base claims (Claims 1, and 4) are patentable over the cited art as indicated above.

Accordingly, Applicants respectfully request that the objection to claims 2, 3, and 6-10 be withdrawn.

In view of the foregoing remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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